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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,051	05/17/2001	Kenji Nishi	109526	4027

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EXAMINER

BROWN, KHALED

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 12/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,051

Applicant(s)

NISHI, KENJI

Examiner

Khaled Brown

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-100 is/are pending in the application.
- 4a) Of the above claim(s) 51-56, 62-66, 68, 69 and 71-75 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 57-61, 67, 70, 76-84 and 86-100 is/are rejected.
- 7) ☒ Claim(s) 85 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Election/Restrictions

Applicant's election with traverse of Group II claims 57-61,67,70,76-100 in Paper No. 13 is acknowledged. The traversal is on the ground(s) that all of the claims are sufficiently related to search at one time. This is not found persuasive because the claims are drawn to distinct and separate inventions.

The requirement is still deemed proper and is therefore made FINAL.

Specification

Claim 85 is objected to because of the following informalities: in line 4, "the base" lacks antecedent basis. Appropriate correction is required.

For examination purposes the examiner is interpreting "the base" to mean "the same base" of line 3 of claim 85.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

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by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 57,59,67,70,76,83,84 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi et al (US 6008885).

Re clms 59: Takahashi et al discloses an exposure apparatus, having an exposure light source which generates an exposure beam and an exposure main unit (Takahashi et al 9) which holds a mask (Takahashi et al 1) and substrate (Takahashi et al 80), and in which the exposure beam is used to transfer a pattern of the mask onto the substrate, the exposure apparatus comprising: a first illumination system (36,37,38), supported independently from the exposure main unit (Takahashi et al shown in Fig 3), which transmits the exposure beam from the exposure light source (Takahashi et al 34); and a second illumination system (Takahashi et al 31), fixed to the exposure main unit, which guides the exposure beam emitted from the first illumination system to the exposure main unit.

Re clm 83: a first support (Takahashi et al 11) and a second support (Takahashi et al 32)

Re clm 84: independent positioning of light source (Takahashi et al 34)

Re clms 57,67,70,76: the above disclosed apparatus is capable of performing the claimed method steps.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 58,60,61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al (US 6008885) in view of Taniguchi et al (US 5137349).

Re clms 60: Takahashi et al discloses the claimed apparatus as noted above including having the optical paths of the exposure beam within the first illumination system (Takahashi et al 32) and the second illumination system (Takahashi et al 31) each substantially sealed. However, Takahashi et al does not disclose gas transmissive with respect to the exposure beam is independently supplied to the sealed first and second optical paths. Taniguchi et al discloses that gas (Taniguchi et al air) transmissive with respect to an exposure beam is independently supplied (Taniguchi et al via 1B) to a sealed optical path (Taniguchi et al 1) because it allows air temperature and humidity to be kept constant (Taniguchi et al Col 4 lines 15-17). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply gas transmissive with respect to the exposure beam of Takahashi et al

independently to the optical path of Takahashi et al because it would allow air temperature and humidity to be kept constant as disclosed by Taniguchi et al.

Re clm 61: field stop (Taniguchi et al 3)

Re clms 58: the above disclosed combination system of Takahashi et al and Taniguchi et al is capable of performing the claimed method steps.

Claims 77-82,86-89,91-92,94-98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al (US 6008885) in view of Ozawa (US 5574537).

Re clm 77,92,97: Takahashi et al discloses the claimed invention as noted above including a first illuminator system (Takahashi et al 36,37,38) comprising an optical member (Takahashi et al 36a,36b) for shaping the illumination beam. However Takahashi et al does not disclose that the first illuminator system comprises an optical member having a driving mechanism. Ozawa discloses that a beam shaping apparatus having optical members (Ozawa Fig 1) should have a driving member (Ozawa 23) because it allows control of exposure quantity (Ozawa Col 4 line 29). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to replace the beam shaping member of the first illuminator system of Takahashi et al with the beam shaping apparatus having optical members with driving mechanism of Ozawa because it would allow control of exposure quantity as disclosed by Ozawa.

Re clm 78,86: optical member (Takahashi et al 42)

Re clm 79,89: variation in shape (Ozawa Col 4 line 52)

Re clm 80: movable blind (Ozawa inherent in 8A)

Re clm 81: a fixed blind (Ozawa 14)

Re clm 82: attenuator (Ozawa 9)

Re clm 87,88,94: a first support (Takahashi et al 11) and a second support (Takahashi et al 32)

Re clms 90,95: same base (Takahashi et al the floor)

Re clms 91,96: light source positioned independently (Takahashi et al Fig 3)

Re clms 97,98: the immediately above disclosed combination system of Takahashi et al and Ozawa is capable of performing the claimed method steps.

Claims 93,99,100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al (US 6008885) in view of Ozawa (US 5574537) as applied to claims 77-82,86-89,91-92,94-98 above, and further in view of Taniguchi et al (US 5137349).

Re clm 93: The combination system of Takahashi et al and Ozawa discloses the claimed invention as noted above. However the combination system of Takahashi et al and Ozawa does not disclose a supply device which supplies gas, transmissive with respect to the exposure beam, to the sealed optical path. Taniguchi et al discloses that gas (Taniguchi et al air) transmissive with respect to an exposure beam is independently supplied (Taniguchi et al via 1B) to a sealed optical path (Taniguchi et al 1) because it allows air temperature and humidity to be kept constant (Taniguchi et al Col 4 lines 15-17). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply gas transmissive with respect to the exposure beam of the combination system of Takahashi et al and Ozawa independently to the optical path of the combination system of Takahashi et al and

Ozawa because it would allow air temperature and humidity to be kept constant as disclosed by Taniguchi et al.

Re clms 99,100: the immediately above disclosed combination system of Takahashi et al, Ozawa and Taniguchi et al is capable of performing the claimed method steps.

Allowable Subject Matter

Claim 85 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims as well as overcoming the above objection in the manner interpreted by the examiner.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to disclose or suggest the claimed structure of the placement of the light source in conjunction with the rest of the claimed subject matter. This is not an obvious matter of design choice since applicant states this is done in order to reduce vibrations.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takubo et al 5204711.

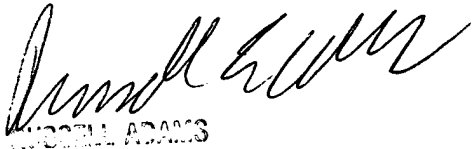
Note : a signed copy of the IDS filed 5-17-01 is attached to this office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khaled Brown whose telephone number is 703-306-5738. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell E. Adams can be reached on 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

KB
December 11, 2002


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